



# Contaminated Water at Fukushima Plant Water Bladder Solution



# Assumptions

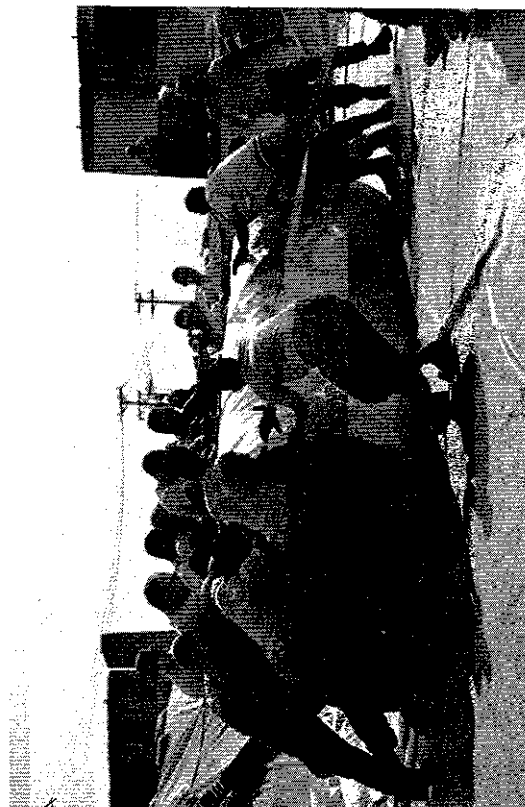
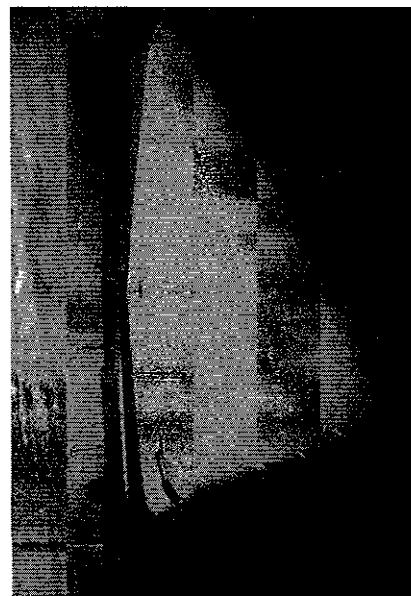


- Estimated at least 5.2M gals
- A leak in the facility exists and is shedding an unknown amount of water to the environment and ocean.
- The water itself is contaminated with both iodine and cesium.



## Recommendation

- Store contaminated water in "water farm"  
constructed from 210K gal fuel bladders  
(66'X66')
- Bladders would be set inside bermed area and  
water from reactors would be pumped in via  
connected hose



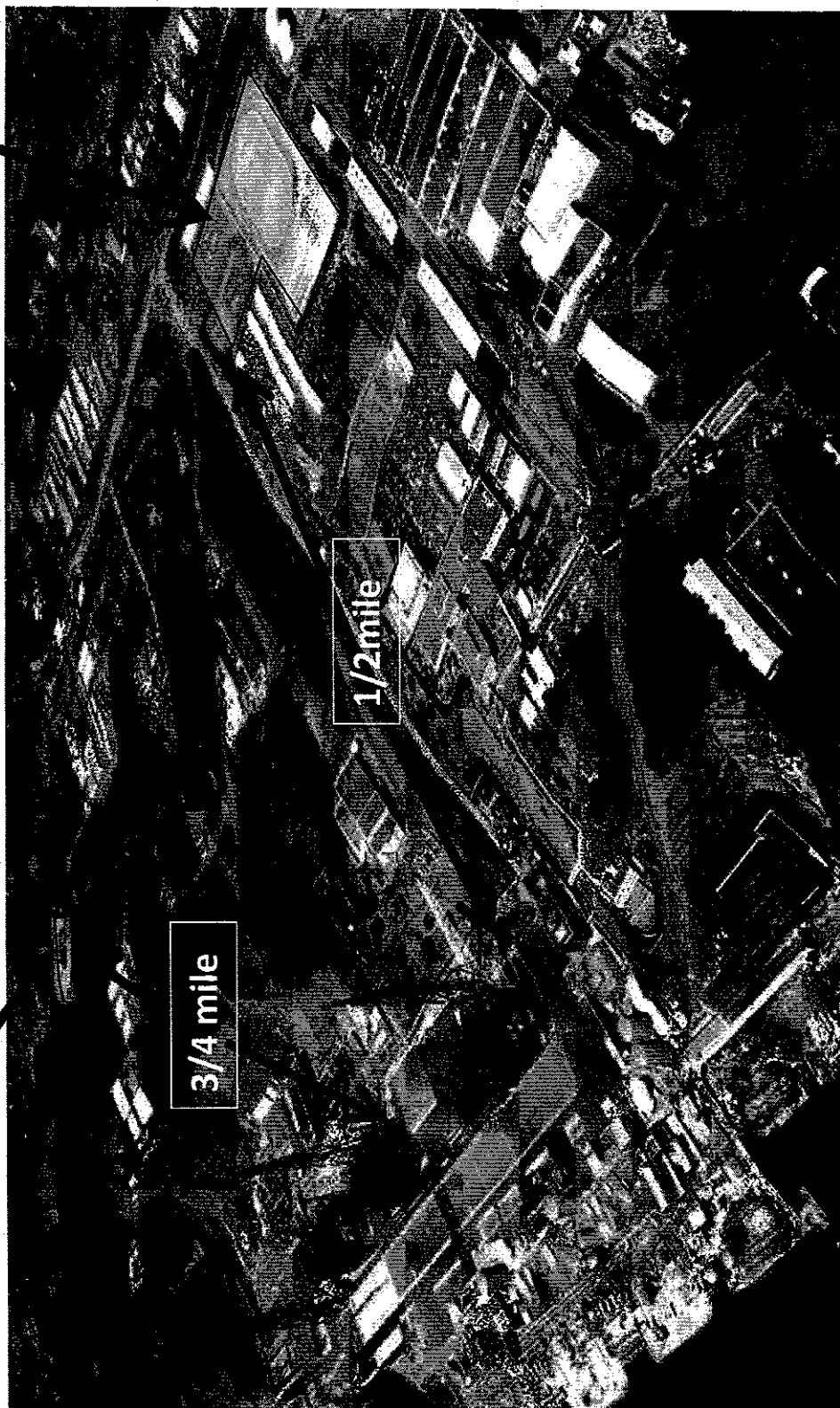


# Bladder Locations



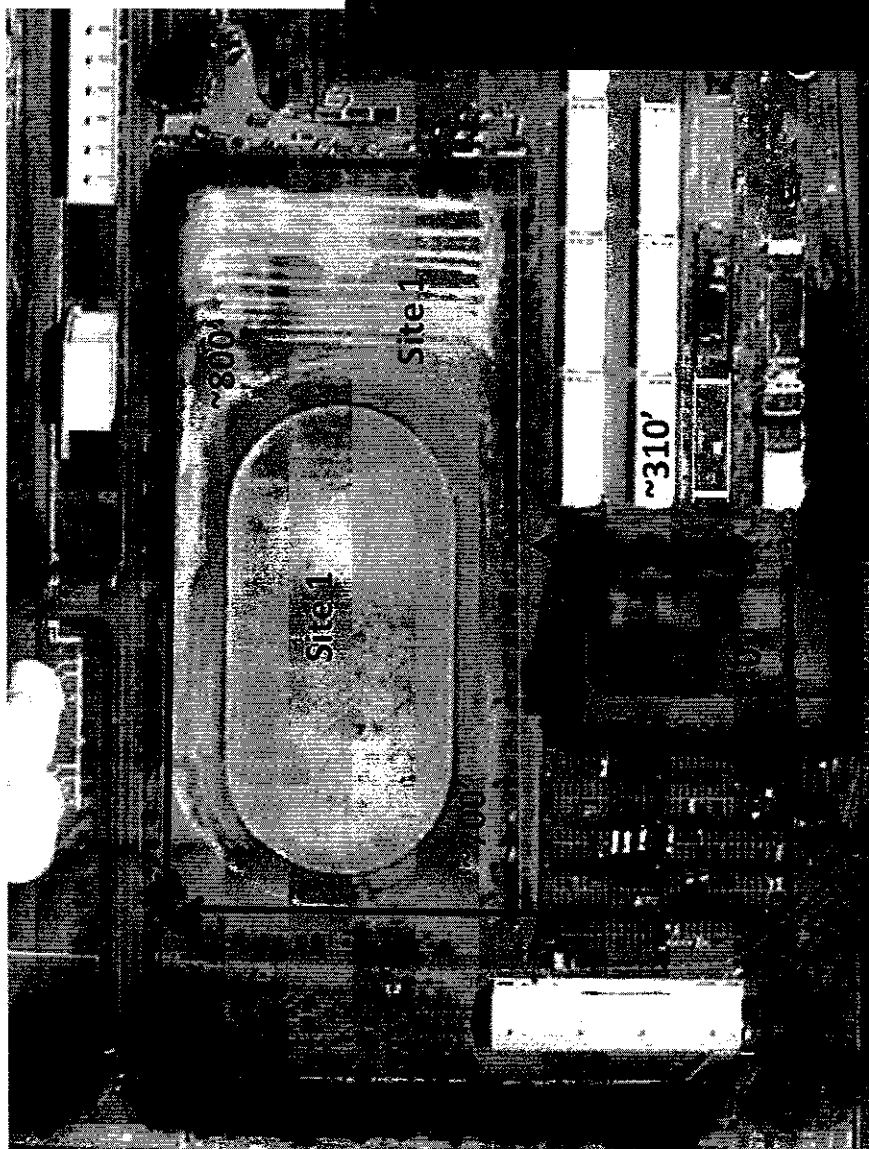
Site #2 - 12 Bladders

Site #1 - 53 Bladders





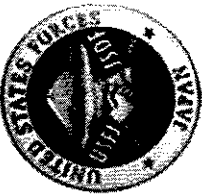
# Site Dimensions





# Equipment Requirements

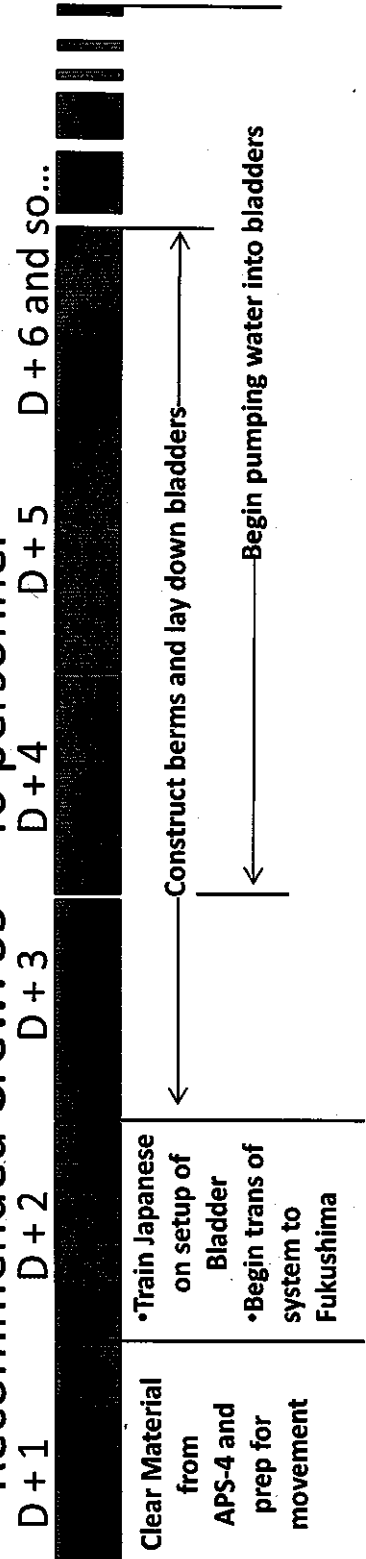
Equipment	Location	Cost	Availability
210K Bladder	65 Sagami (79 available) Non-APS	\$0.00	24 hrs
Pumps (6) (3/site)	Sagami APS	\$18K/ea \$108K	24 hrs
2.5km(8200Ft) of 6" Hose	Sagami APS	\$4316/500ft \$74K	24 hrs

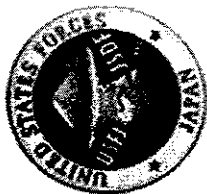


# Timeline

- Construction of Site 1: 3 days to build
  - Estimated completion Day 5
- Construction of Site 2: 20 hours to build
  - Estimated completion Day 6
- Recommended Vehicles required:
  - Dump Trucks (6)
  - Front End Loaders (6) – 3 at the fill load site and 3 at work site
  - Bull dozers (3)
  - Fork Lifts

- Recommended Crew: 35 – 40 personnel





# QUESTIONS

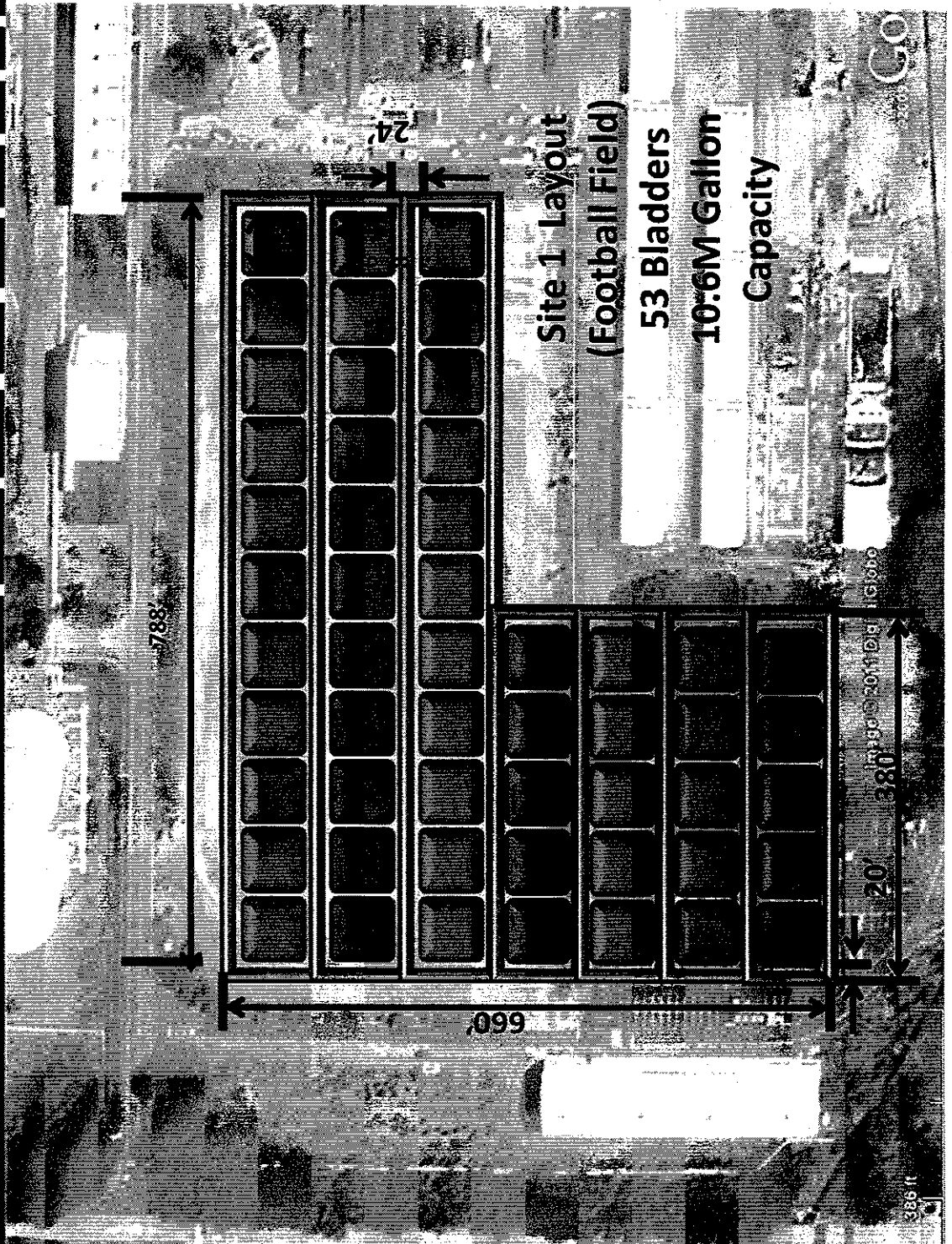




# Backup

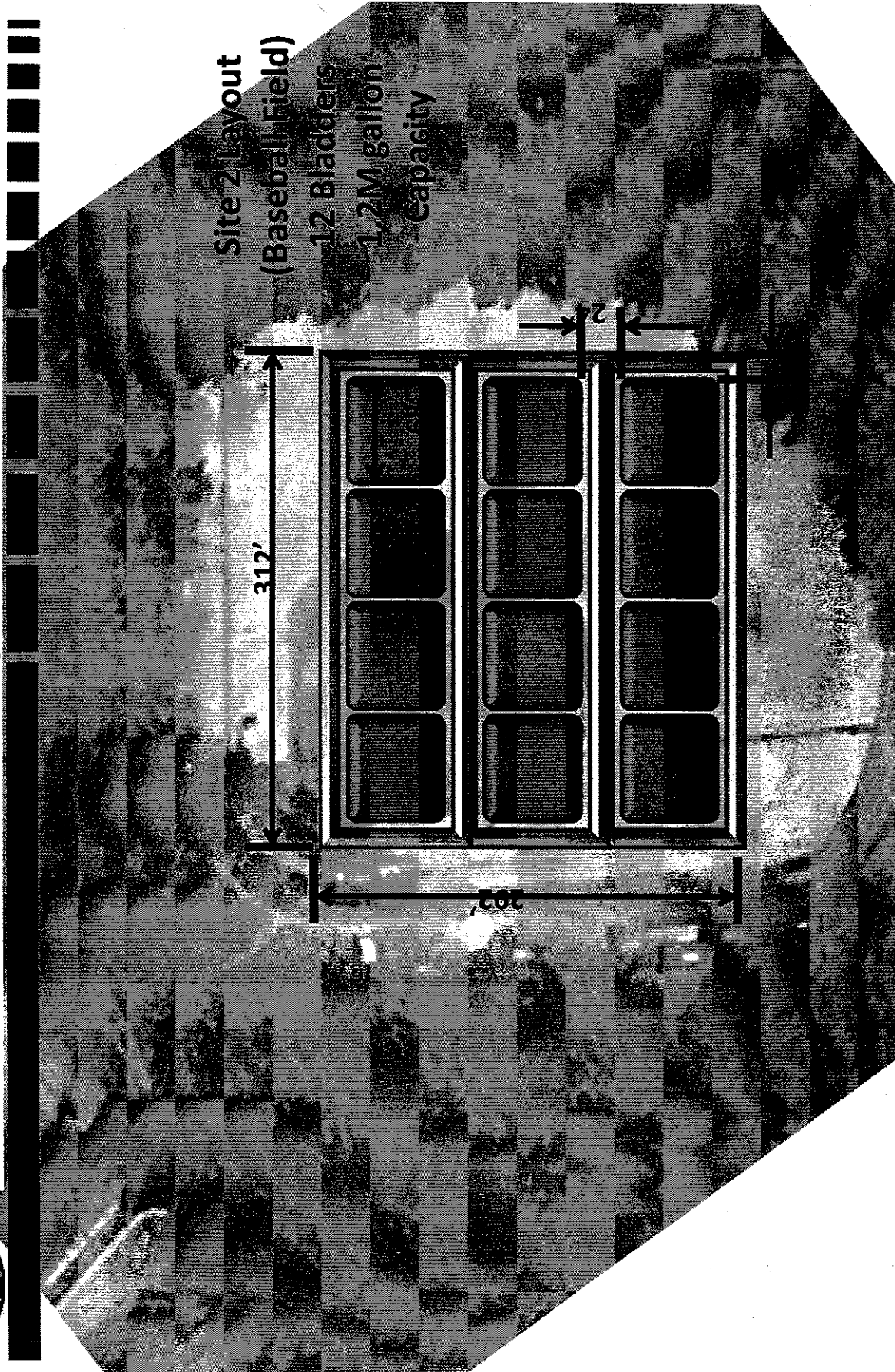


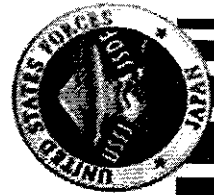
# Site 1 Layout





# Site 2 Layout





# Current Plan (when Barges are in place)



Dam output + Barge Ops can sustain 350 gpm indefinitely

1520cm<sup>3</sup>  
367Kgals

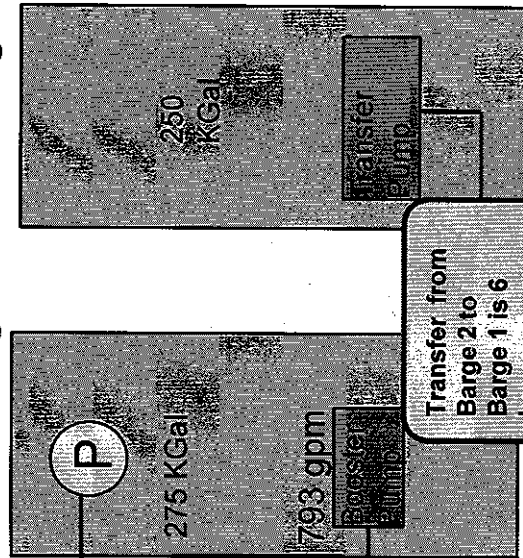
254gpm

Pumps not a limiting factor, can push 466gpm if desired, just not enough water in the tank

(350 gpm)

YONG Barge #1 YONG Barge #2

Barge pump will run at 520 gpm and empty Barge 1 in (8) hrs



Transfer from Barge 2 to Barge 1 is 6 hours

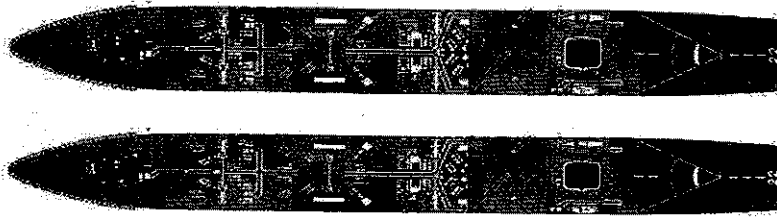
Sakashita 200gpm is current rate. If pipeline was repaired output would be 400gpm.

200 gpm from Sakashita.

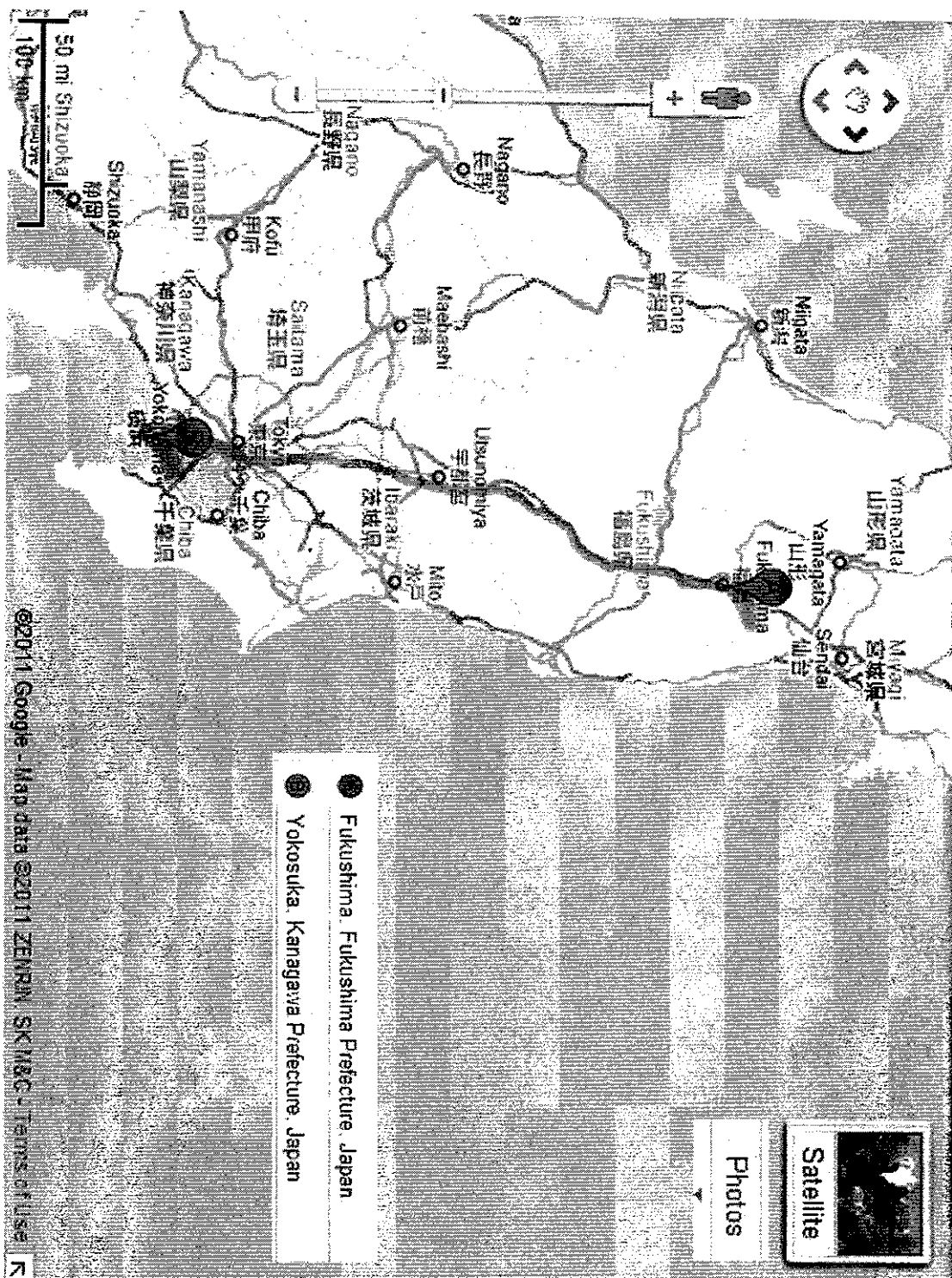
Design flow = 400 gpm (Requires troubleshooting & repair)

18 hr round trip

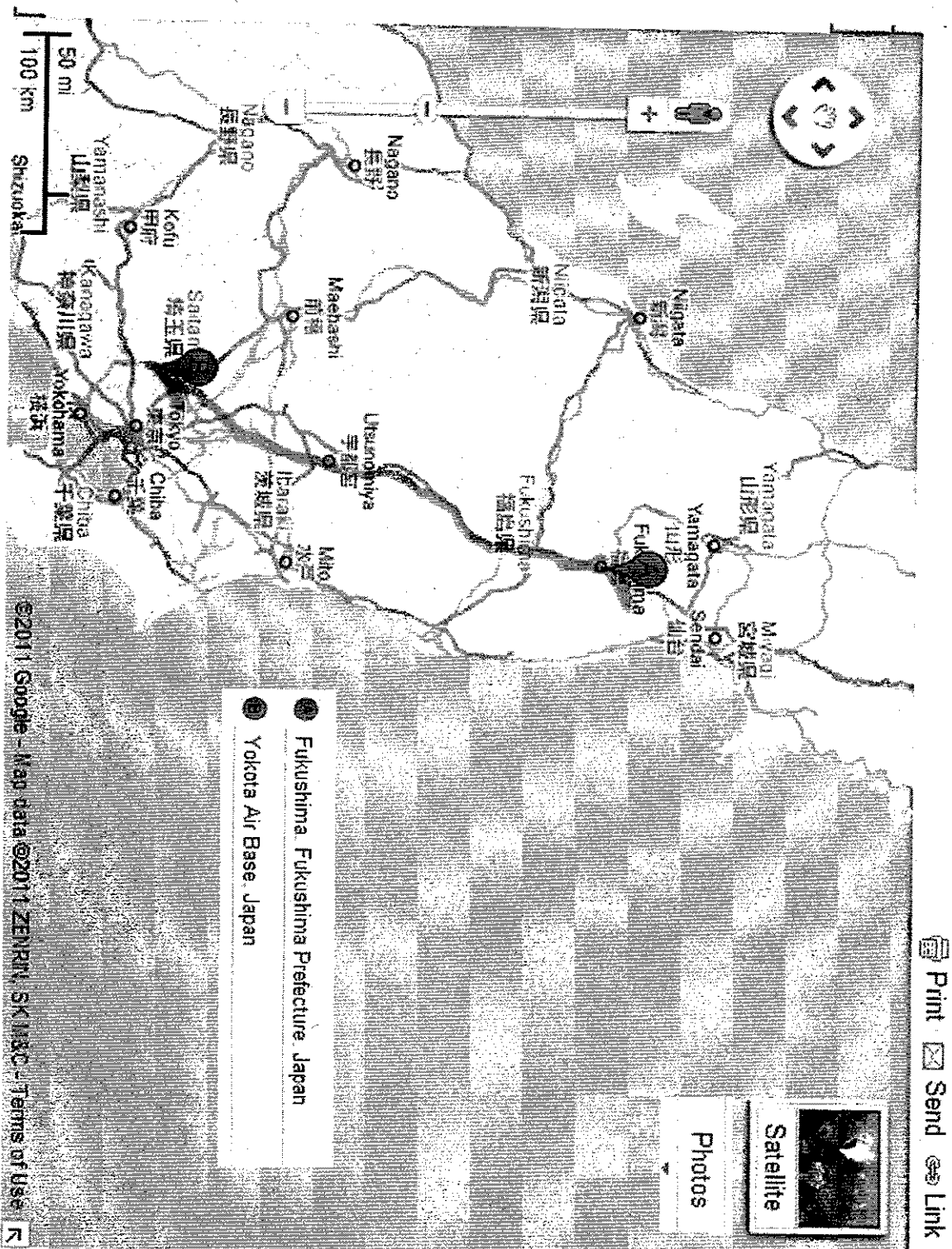
Japanese AOE LST



AOE replenished at J-Village Source cycle time, unknown







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